Data Sheet

LPC-Stick

Contents

Contents		**1**
1	**Scope**	**2**
2	**Connections and Controls**	**2**
3	**Interfaces**	**3**
4	**Technical Data**	**7**

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1 Scope

This data sheet is for the LPC-Stick debugger system. It contains architecture- and device-specific information and all technical data of the system.

The LPC-Stick is a specific debugger system being able to emulate the integrated LPC2468 microcontroller with on-chip debug support. It provides a USB communication port for connecting the LPC-Stick to a PC.

For operation, the overall system requires the LPC-Stick component only.

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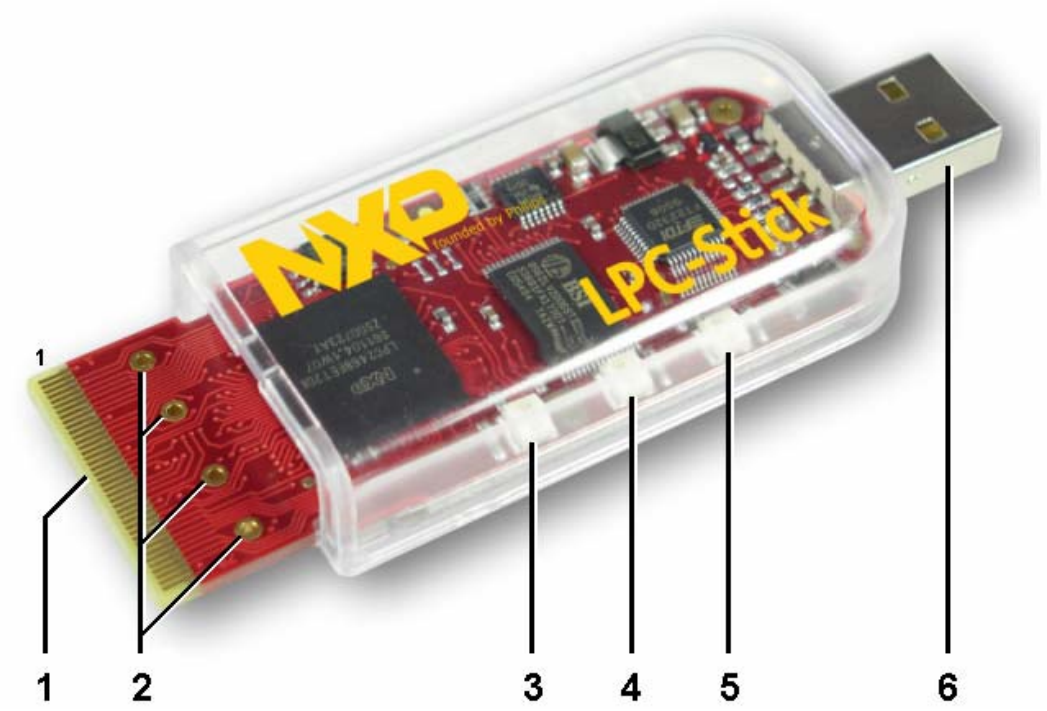
2 Connections and Controls

The LPC-Stick has the connectors and LEDs as shown in the following figure:



1	Extension Board Connector (for the pin assignment see below)
2	Digital Ground GND
	Analog Ground GNDA
	Port Pin Pxx (can be used as gate signal for counter)
	Port pin Pxx (can be used for voltmeter and frequency scan / counter as input in the range 0 … +3.3V)
3	USER LED (green) /Light Sensor connected to pins Pxx and Pxx (Pxx must be set to output low !)
4	USER LED (red) connected to pin Pxx
5	USB LED (green)
6	USB PC Connector

Status Indication LEDs

Three LEDs are provided to indicate the LPC-Stick's current state:

LED	Colour		Meaning
USER /sensor		Green	Can be controlled by the user application running on the LPC2468 controller or used as ambient light sensor.
USER		Red	Can be controlled by the user application.
USB		Green	USB enumeration and powering enabled.

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3 Interfaces

Communication

The LPC-Stick's USB interface is implemented in accordance with the USB specification 2.0.

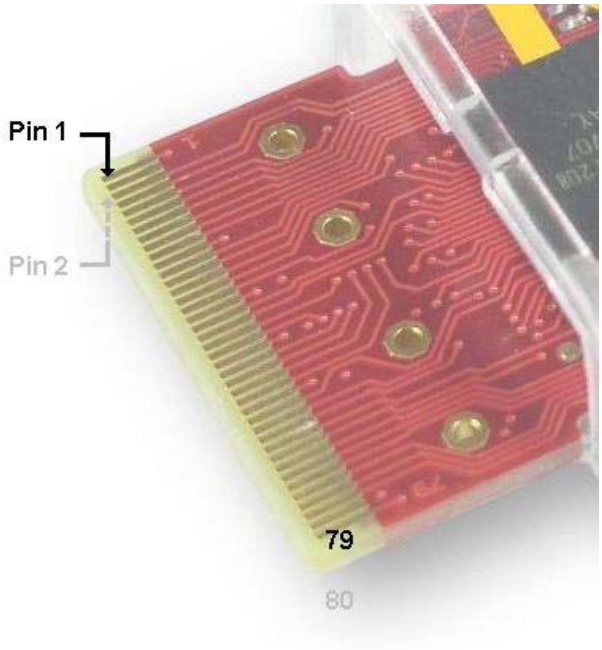
As far as the transmission rate is concerned, the LPC-Stick is a full-speed device.

Since the LPC-Stick is a USB-bus powered device, no external power supply is required. LPC-Stick consumes up to 300 mA (depending on the extension board used) and thus requires a powered hub connection.

Note
With some external USB 2.0 hubs, the LPC-Stick will not always be recognized the first time it is connected. Remedy: Try again.

External Signals and Interfaces

The extension connector of the LPC-Stick has the pin numbering scheme as shown in the figure and the table:



Extension Connector

Pin Assignment

Pin	Signal name	Pin	Signal name
1	+3.3V	2	+3.3V
3	Reset_N	4	Power_enable
5	USB_D-2	6	P0.0
7	P0.31	8	P0.1
9	P0.13	10	GND
11	P0.29	12	P1.20
13	P0.14	14	P1.21
15	P1.19	16	P2.13
17	P1.22	18	P2.12
19	P1.27	20	P2.11
21	GND	22	GND
23	P1.28	24	P0.10
25	P1.29	26	P0.11
27	P1.30	28	P0.20
29	P0.30	30	P0.19
31	P1.18	32	GNDA
33	GND	34	--
35	P0.22	36	P0.17
37	P0.21	38	P0.18
39	P1.2	40	P0.16
41	P1.3	42	P0.15
43	P1.7	44	GND
45	P1.11	46	P0.24
47	P1.12	48	P0.23
49	P1.8	50	P0.25
51	P1.10	52	P0.26
53	GND	54	GND
55	P1.16	56	P2.9
57	P1.13	58	P2.8
59	P1.6	60	P2.5

61	P1.5
63	P1.17
65	P1.15
67	P1.14
69	P1.9
71	P1.1
73	P1.4
75	P1.0
77	--
79	+5V

62	P2.1
64	P2.3
66	P2.4
68	P2.2
70	P2.0
72	P0.5
74	P0.4
76	GND
78	(P0.12)
80	+5V

4 Technical Data

Power Supply			
	Mains connection	not present, USB bus powered (4.2V to 5.0V)	
	Power consumption	max. 1.5 W	
	Current consumption	max. 300 mA	
Dimensions			
	STM32-Stick	W x H x D	appr. 115 x 20 x 34 mm
		Weight	approx. 38 g
Environmental Conditions			
	Operation	5 to 40°C ambient temperature	
	Storage	-20°C to +65°C, less than 90% relative humidity, non-condensing	
External Connections			
	Interface to host	1 USB interface, Virtual COM Port	
	Interface to target	LPC-Stick-dependent connector	
Transfer Rates			
	STM32-Stick-Host	USB	12 Mbit/s
Supported Target Voltage			
	IO level	DIO: 3.3V (± 10%)	
		PIN: 0V to 3.3V	

*) If the LPC-Stick is connected to a USB hub that can not deliver the current needed the operating system will deny the enumeration of the LPC-Stick. Bus-powered hubs and USB keyboards with downstream ports often source only 100mA.

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